Virginia GISData Portal User Guide

Version 1.0 Mar 2008

Revision History

Version	Date	Description	Author
0.5	27Jun07	Modified ESRI user manual	Lyle Hornbaker
1.0	3Mar08	Created Portal User Guide	

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Part I: Welcome to the Virginia GISData Portal

1.0 Introduction

1.1 What is the Virginia GISData Portal?

The Virginia GISData Portal, which is located at http://gisdata.virginia.gov, allows you to search, publish, author, and administer metadata stored in the Virginia GIS Metadata server. The warehouse contains metadata files, search tools, community information, support resources, and applications. The Virginia GISData Portal uses ESRI's ArcIMS and ArcSDE Server technology in order to provide a standards-based solution.

GIS portals are gateways that connect you with metadata about geographic content and services. Metadata is simply data about data. Think of metadata as a summary or description about extensive information. When you search for information, metadata allows you to quickly filter through your results. For example, a library catalog is a type of portal that stores metadata. Through keyword searches, you can find information that pertains to your interests such as wildfires in the Pacific Northwest or floods in Malaysia. These results are metadata, a brief summary of extended information, which may include references to maps, pictures, books, newspaper articles, or magazines that relate to your search. Users post metadata to a GIS portal, which typically includes publication date, source of information, map projection, accuracy, and the reliability of information. The metadata may point you to the actual data or provide you with contact information for the user who posted the metadata or owns the data.

By the end of this guide, you will be able to use Virginia GISData Portal to obtain spatial information on topics of interest.

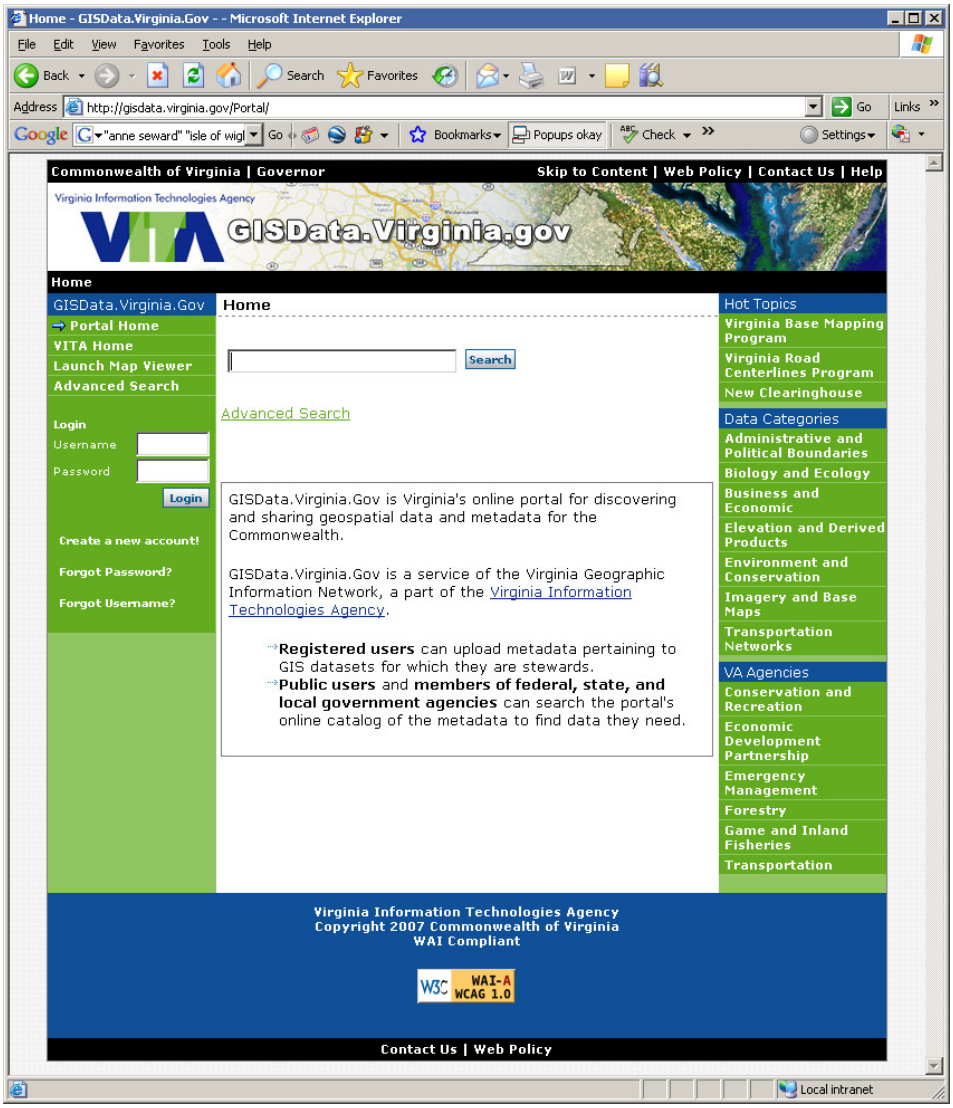
The Virginia GISData Portal includes the following:

- Modules to search metadata with basic and advanced searches.
- A Map Viewer to view map data discovered from within the GIS portal.
- Channels to organize and support focused user communities.
- You can download a Portal Toolbar to enable you to search portal catalogs from within ArcMap. The Portal Toolbar also provides a means to open saved Web Map Context files (XML-based files saved from Map Viewer) in ArcMap.
- A search task to enable you to search portal catalogs from within ArcGIS Explorer.

1.2 What You Will See on the Screen

1.2.1 GIS Portal

When you access the Virginia GISData Portal, you will see the application window, which looks similar to the graphic below.



In the center of the home page, you can enter a keyword to begin your search. Along the left side of the GIS Portal Toolkit application window, you will see a set of actions to help you navigate through the portal. Here you will be able to launch Map Viewer, create an advanced search, log in as a user, or create a new user account.

Tip: All users are not required to register and log in to search for data on the GIS portal. You can begin your search from the home page as an anonymous user; however, your

search will filter through public metadata. As a registered user, you may have access to nonpublic metadata as well as be granted permissions that allow you to publish, author, and/or administer metadata content in the portal. Refer to section 3.0 for instructions on how to create a new account.

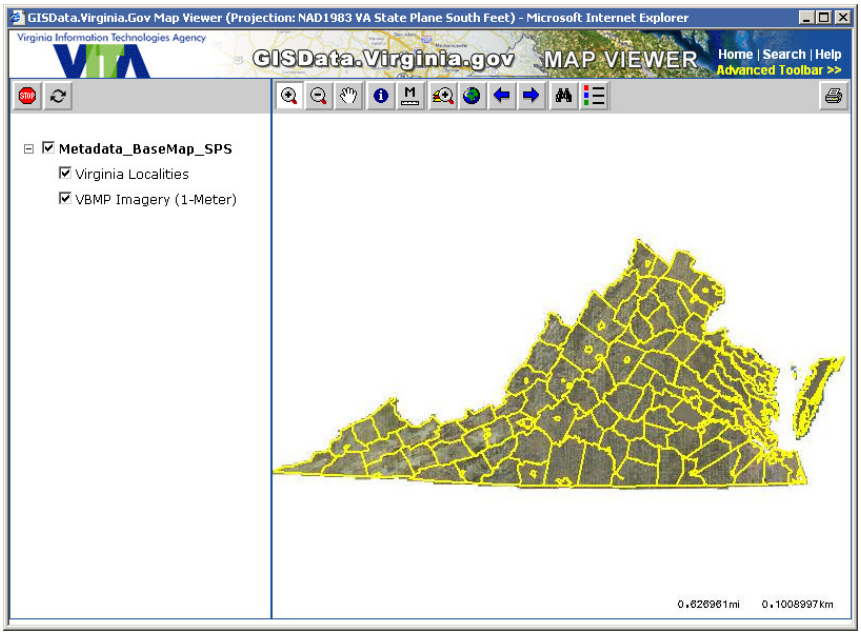
With the GIS portal, you can

Search for data.
View live data and map resources.
Manage your user profile.
Manage saved maps and queries.

1.2.2 GIS Portal Toolkit Map Viewer

GIS Portal Toolkit Map Viewer is a mapping application that allows you to view one or multiple Internet map services in your Web browser. Use Map Viewer to access hundreds of Internet map services available through Virginia GISData Portal and other mapping sites. With Virginia GISData Portal Map Viewer, you can create beautiful, informative maps using geographic data from many of the world's leading publishers.

When you select Launch Map Viewer from the GIS portal home page, Map Viewer will open in a new window, which looks similar to the image below.



Map Viewer will display the portal's default basemap. Along the top of the Map Viewer application window, you will see a taskbar with tools that you can use to interact with and customize the map. There are two primary map display panels in Map Viewer: the data frame and the map display. The data frame stores the table of contents, which displays geographic information as a series of map layers. A check box next to each layer indicates whether the

feature display is currently turned on or off. The map display allows you to visually see features on the map.

With Virginia GISData Portal Map Viewer, you can

Display one or more map services in a single map view.
Add/Remove map services discovered by GIS Portal Toolkit and other map servers.
Turn map layers on or off within a map service.
Change the drawing order of services when connected to multiple services.
Set the transparency of map services for overlaying multiple images.
Reproject the map view from a predefined drop-down list.
Define styles for Web Map Service (WMS) and Web Feature Service (WFS).
Navigate the map using the Zoom, Pan, and Extent tools.
Find locations by place-name, street address, or latitude-longitude coordinates.
Identify attribute information about features in a map service.
Display the legend for all map services.

2.0 GIS Portal Basics

GIS Portal Basics covers topics related to anonymous and registered users. This section is the foundation for using the GIS portal.

2.1 Anonymous Users

Anonymous users can access public functions of the portal including keyword searches and advanced searches. Anonymous users can also view metadata records, edit maps in ArcMap, and display maps in both Map Viewer and ArcGIS Explorer. As an anonymous user, you are not required to log in to the GIS portal to use key functions.

Anonymous user functions include the following:

Basic search
Advanced search

2.2 Basic Search

1. Open the GIS portal.
2. The GIS portal home page opens.

   Enter one or more search terms in the Search text box (e.g., "vbmp").

3. Click Search.

4. The search returns metadata records. The metadata provides general information to help you identify which results will be useful to your search. If your search does not yield results, enter an alternate search term.

Figure 1: Virginia Metadata Portal Homepage

Figure 2: Example Search Results

5. Investigate one of the metadata documents resulting from your search.

6. Click View Details under any result to view the basic metadata for this record.

Figure 3: Details of a basic metadata record

Details for this record appear and inform you of the content's citation, description, time period, status, spatial domain, keywords, spatial data information, and access information.

7. Click the Back button at the top right corner to return to the Search Results menu.

8. Click View All Metadata to view the full description of metadata for this record. The metadata for this record opens in a new window.

9. A full metadata record may contain a URL link for you to view the online location of your result. *See example below.*

Virginia Enterprise Zones (FGDC) / entzones06 (ISO)

FGDC Metadata

Identification Information:
Citation:
Citation Information:
Originator: Virginia Economic Development Partnership
Publication Date: 20021106
Title: Virginia Enterprise Zones
Edition: First (updated)
Geospatial Data Presentation Form: vector digital data
Publication Information:
Publication Place: Richmond, Virginia
Publisher: Virginia Economic Development Partnership
Other Citation Details: none
Online Linkage: http://www.yesvirginia.org
File or Table Name: entzones06
Description:
Abstract: Enterprise zone boundaries are important when creating information packages for economic development prospects. This coverage is useful with other business quality of life or environmental layers to help identify areas available for development that may benefit from certain tax advantages. This coverage is also used to identify sites and buildings available that are in an enterprise zone.
Purpose: The purpose of this coverage is to provide a geographic representation of enterprise zones in Virginia localities and to identify development zones with tax incentives.
Supplemental Information: none
Language of Dataset: en
Time Period of Content:
Time Period Information:
Range of Dates/Times:
Beginning Date: 20041106
Ending Date: present
Currentness Reference: ground condition
Status:
Progress: Complete
Maintenance and Update Frequency: As needed
Spatial Domain:
Bounding Coordinates:
West Bounding Coordinate: -83.477841
East Bounding Coordinate: -75.312781
North Bounding Coordinate: 39.018429
South Bounding Coordinate: 36.469618

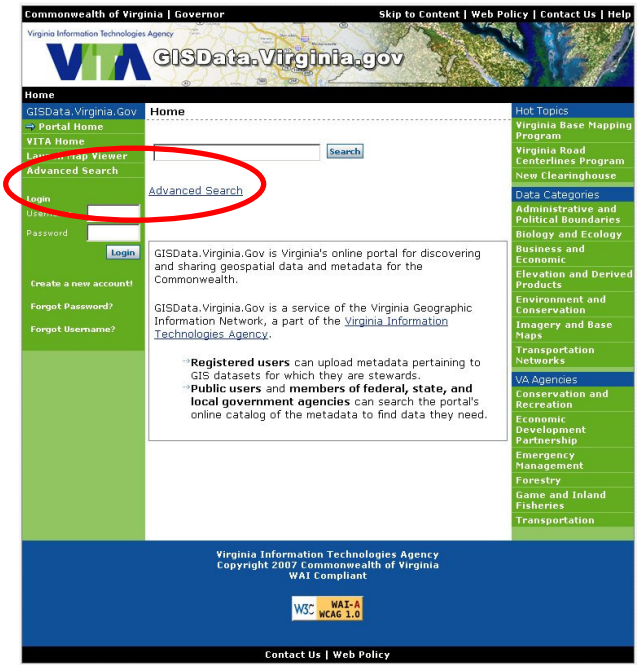
Figure 4: Example of a full metadata record.

10. Click the URL. You will be directed to an online location of your result.

Figure 5: Homepage referenced in the Enterprise Zones record

11. You can minimize or close this external window by clicking the Minimize or Close button in the top right corner of your browser window. Return to the Results menu.
12. Click the Refine Search button at the top right corner to refine the search parameters and begin an advanced search.

You have completed a basic search. Through one keyword search, you were able to find multiple metadata results. The basic search allows you to quickly enter keywords into the GIS portal to find data related to your interests. You can review the metadata results to determine if the results will further your investigation. Next, you will learn how to perform an advanced search in the GIS portal.



2.3 Advanced Search

The advanced search allows you to filter through the portal based on defined search criteria. This allows you to narrow your search results based on key factors that you define.

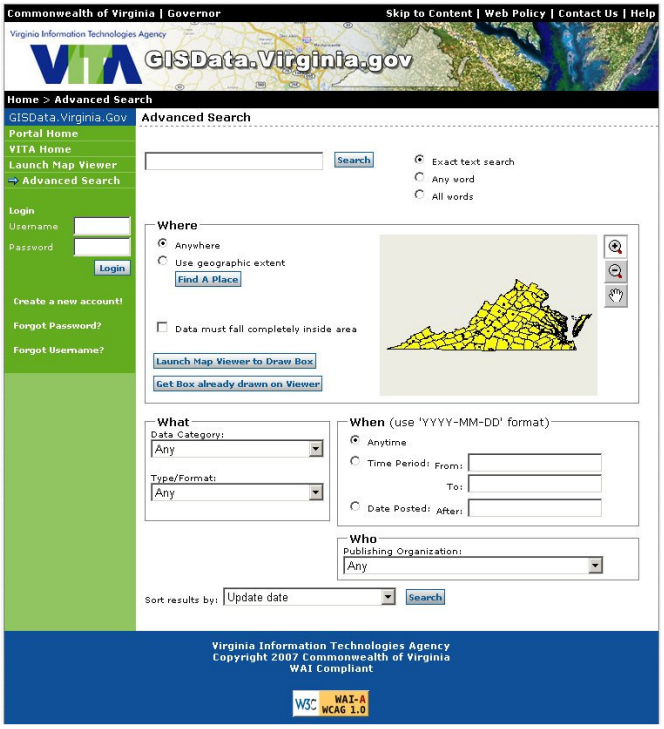
Advanced Search

1. Open the GIS portal.

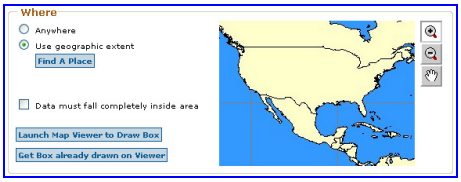
   The GIS portal home page appears.

2. Click Advanced Search either in the table of contents or below the Search text box.

   The Advanced Search dialog box appears, where you can filter your search by Where, What, When, and Who categories.



3. Enter a search term(s) in the Search text box (e.g., "Industrial").
4. Change your search query to select Any word.
5. In the Where section, select Use geographic extent.



6. Draw a box around the geographic location where you want to focus your search.

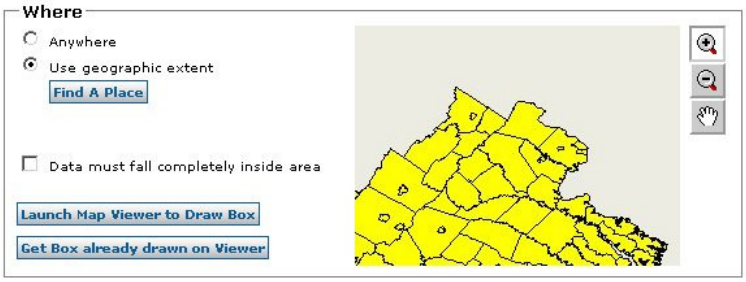
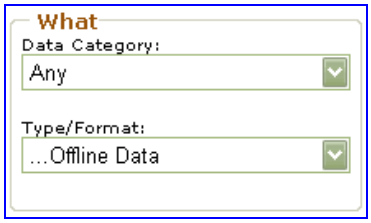


Figure 6: The Advanced Search box.

7. The map display zooms to the extent of your chosen geographic location (e.g., Northern Virginia).
8. In the What section, chose an option from the Type/Format drop-down menu (e.g., select Offline Data).



9. Click Search.

Tip: The more information you provide in the Search text box, the closer the results will be to matching your search objective.

Tip: Your search may or may not yield metadata results. If there are no results, modify your advanced search to have fewer search criteria.

10. The results page shows that there are 2 or more records that meet your criteria.

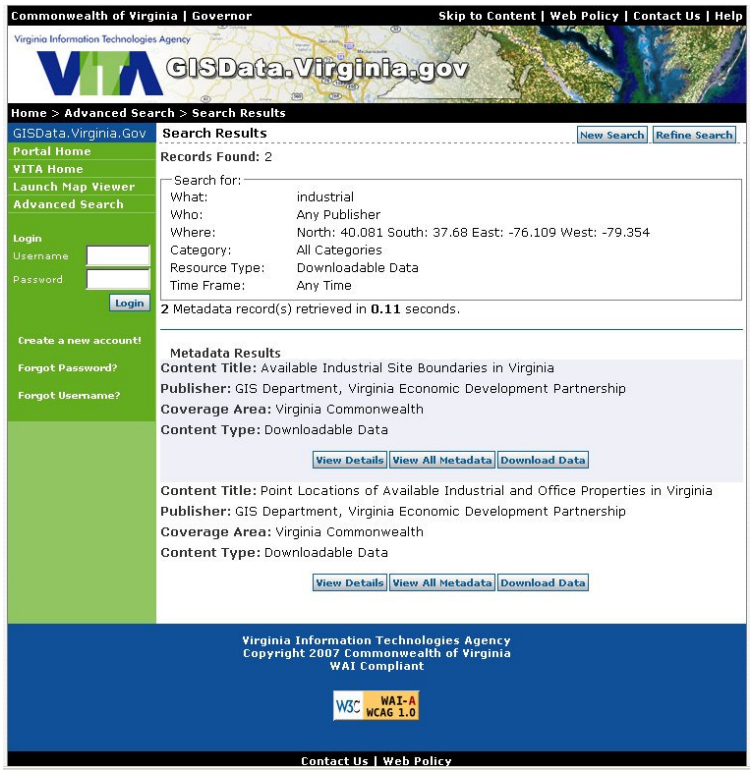
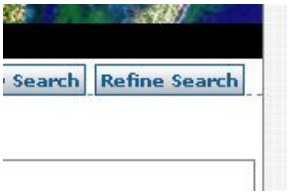


Figure 7: Example of an Advanced Search for downloadable data.

11. Click Refine Search button.



12. Change the Type/Format drop-down menu to Any.

13. The Search Results should now show at least 1 more record. This record does not have the Download Data button because the data is not available for download.

14. Click View All Metadata to view the full description of metadata for a record. The metadata for this record opens in a new window.

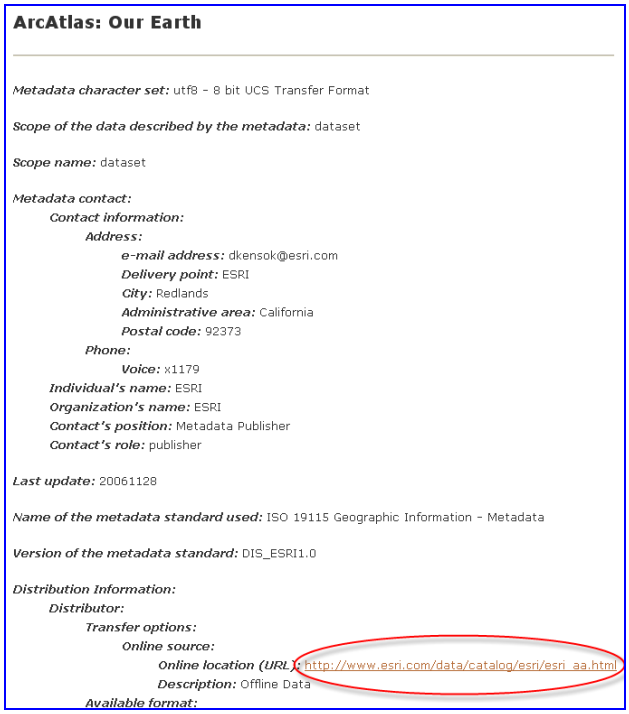


Figure 8: The image above is an example of a full metadata record that contains a URL

15. If your metadata result specifies an online location, or URL, click the URL to be directed to the online location.

Tip: The online location may contain additional information not mentioned in the metadata. Investigation of the online source may prove useful in your search.

You have successfully completed an advanced search where you narrowed your search criteria based on your search objective. Basic and advanced searches are key functions to navigate through the portal. Next you will learn advanced Map Viewer skills that will help you display your results.

2.4 Browse Channel Pages

1. Open the GIS portal.

   The GIS portal home page opens.

   Channel pages are accessible from the right side of the portal with the following default categories: The types of channels presented may vary over time but will usually include Hot Topics (News etc.), Data Categories and Virginia Agencies.

   Tip channels are a way of presenting many related metadata records in one place.

2. Take some time to explore the channels.

   The title listed under each category is a root channel, or parent channel.

3. If a root channel has a plus sign [+], click the plus sign to view the subchannels.

4. Click a subchannel to view additional information. Subchannels take on the same structure as root-level channels. Each contains an introduction and is

   divided into sections, and each section may contain links to metadata or a Web site relevant to the channel.

Figure 9: Channels are on the right side of the page. Some channels may include a sub channel like Transportation above.

Now that you have learned how to search for metadata on the GIS portal and navigate through channel pages, you are ready to explore the portal on your own.

3.0 Registered Users

Registered users have access to the same functions as the anonymous user as well as access to additional functionality. In addition, registered users can save maps and searches and manage a user profile. With the proper credentials, a registered user may have additional access to search and view nonpublic metadata. For example, registered users may, individually or as a group, be granted permission by one publisher to search and view metadata posted by that publisher. Based on the credentials of the registered user, he or she may have access to metadata that would otherwise be private.

Registered users functions include

Manage my Profile
Manage my Maps
Manage my Search

Tip: Registered users need to create an account before they can use the additional functionality.

3.1 Create a New User Account

1. Click Create a new account in the table of contents.

2. The User Registration Page opens. A red asterisk is placed beside the required fields.

3. Enter a user name and password in the fields provided.

4. Reenter your password for confirmation.

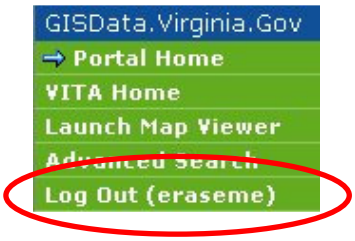
5. Enter a valid email address

6. Reenter your email address for confirmation.

7. Click Register. The page refreshes and you are now signed in to your new user account.

   Once you are logged in, you will see your registered user functionality under the My Functions section.

8. To log out, click the Log Out link in the table of contents.



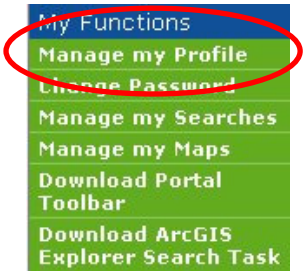
From this point, you will never need to Create an Account again. Simply login using your chosen username and password on the login portion of the Table of Contents.

3.2 Manage My Profile

This function allows you to update your contact information, which is used primarily as input for the online metadata entry form to populate the metadata distribution and contact

information fields. The contact information will be posted in your metadata to allow users to contact you.

1. Log in to the portal.
2. Click Manage my Profile in the table of contents.
3. The Manage my Profile dialog box opens. Add new text or change existing text in each field. The following information is available to update in your profile:

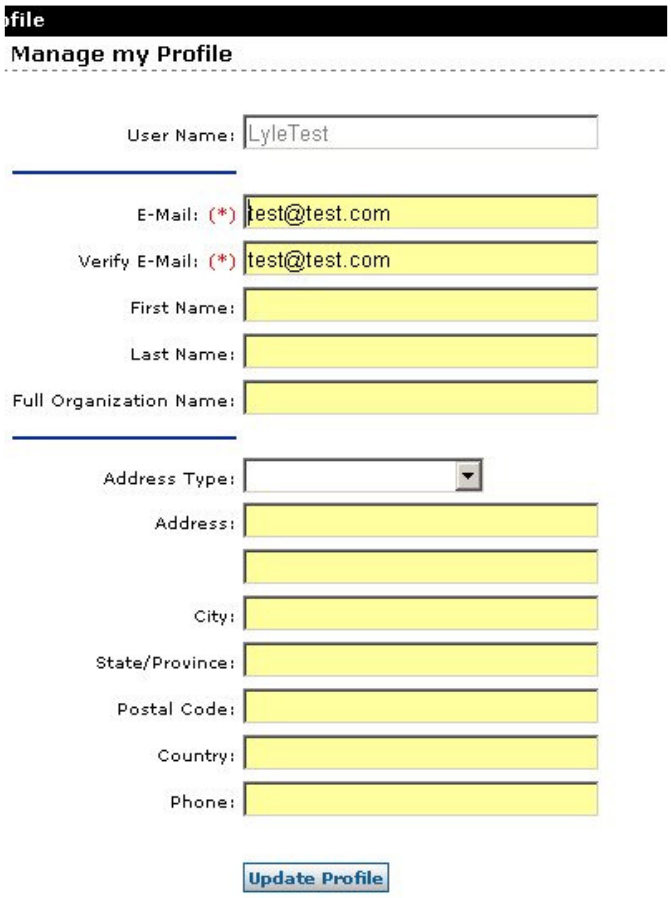


Name Address

Organization Country

Address type Phone Number

4. Click Update Profile to save your data. Click Cancel if you have no updates you want to make.



3.3 Manage My Maps

As a registered user, you will be able to save a maximum of 10 maps in your user account. You can display or delete your saved maps through the Manage my Maps function in the table of contents.

3.3.1 Save Maps

1. Log in to the portal.

2. Launch the Map Viewer.

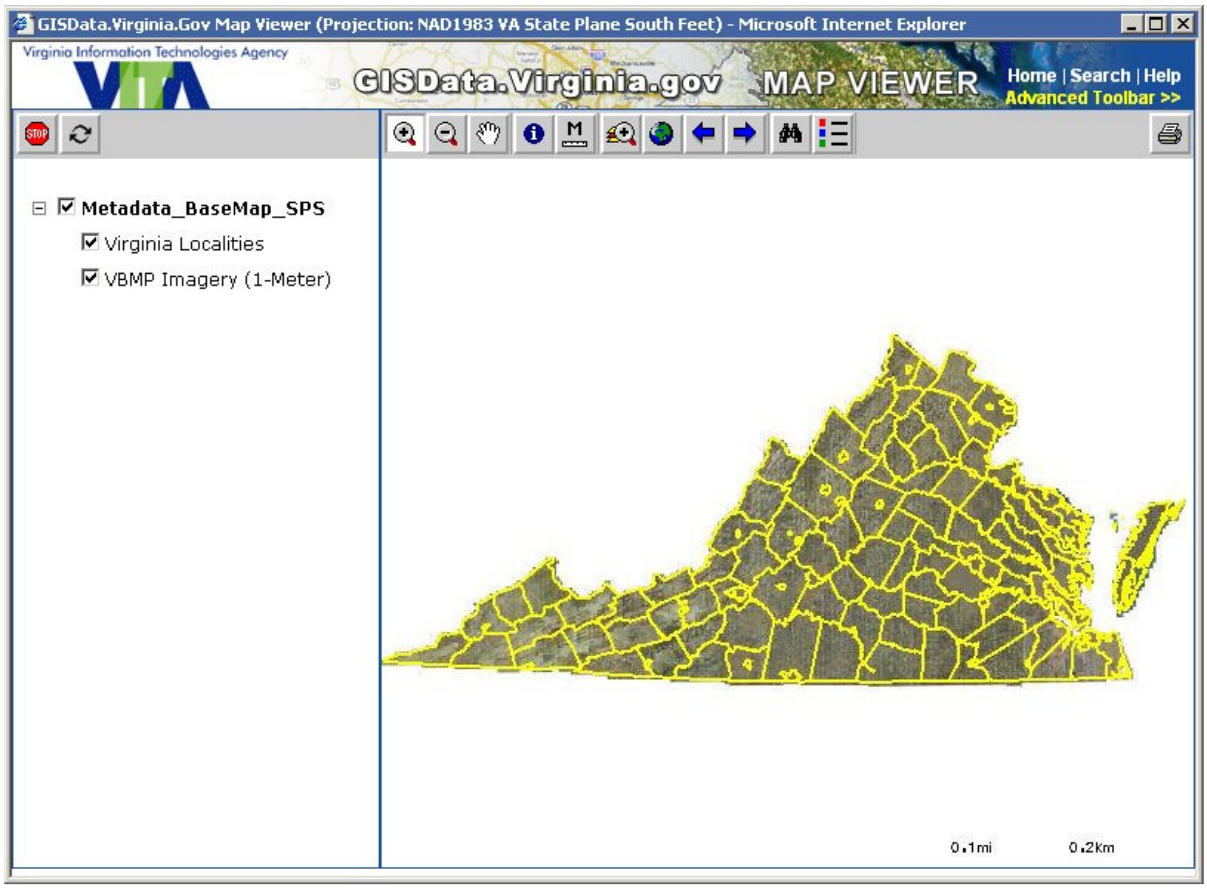
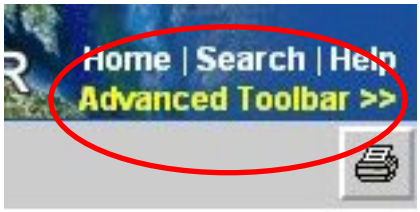


Figure 10: Map Viewer with the default map.

3. Open the Map Viewer Advanced Toolbar.



4. Click on the Add Services Button

5. In the Add Services box, choose the Geography Network and click OK.

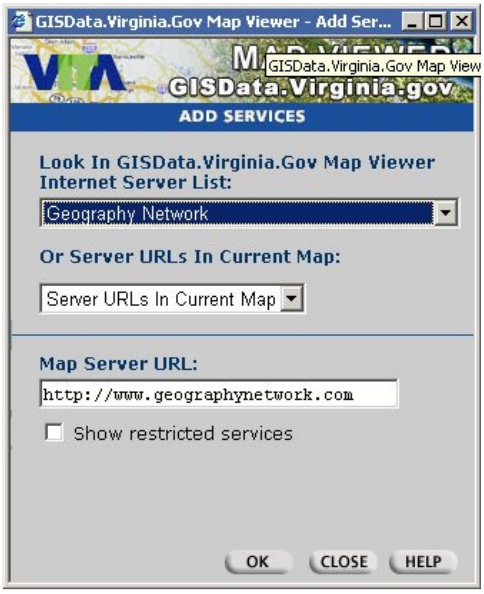


Figure 11: The Add Services dialog Box allows you to use various Internet Map services in your maps.

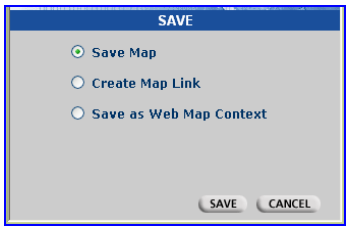
6. Scroll down the list of layers and choose ESRI_Relief and click Add.
7. The base map will become semi-transparent so that you can see the relief map underneath.
8. Feel free to experiment with other available services.

9. Click the Save Map button  on the Map Viewer toolbar.

   The Map Viewer SAVE dialog box opens.

Tip: If you are not already signed in, the SAVE option will not be available.

10. Click Save Map.



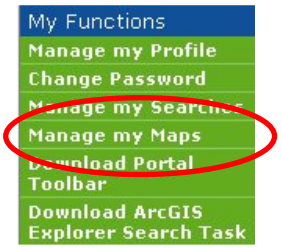
11. The SAVE dialog box prompts you to enter a map name (e.g., ESRI Relief).

12. Click SAVE. Click CLOSE to close the dialog box. Click HELP if you need further assistance.

A message will inform you that the map was saved successfully.

The map is saved to your user account. When you log in to your user account, your map will be stored under My Maps on the home page. You can also view your maps by selecting Manage my Maps in the table of contents.

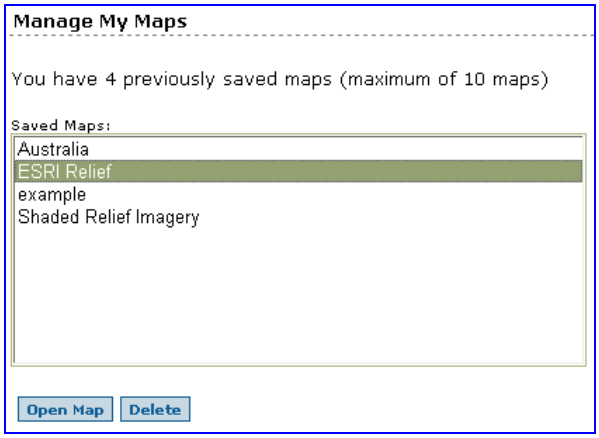
3.3.2 View Stored Maps



1. Log in to the portal.
2. Click Manage my Maps in the table of contents.

The Manage My Maps dialog box opens and displays a list of your saved maps. If the Saved Maps section is empty, you have no maps saved.

3. Click the map title you wish to view. The map title will be highlighted.



4. Click Open Map to display the highlighted map in Map Viewer.

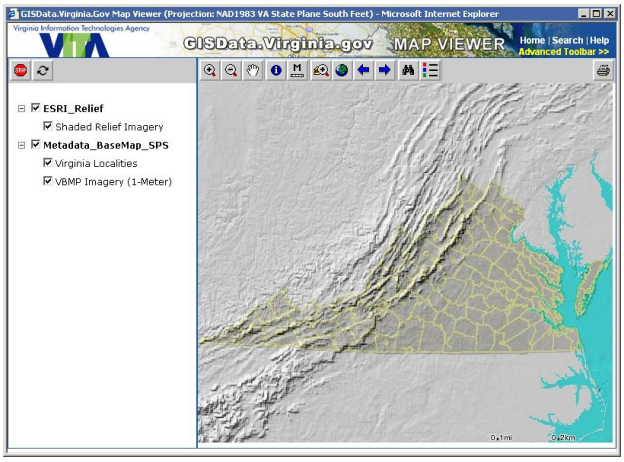
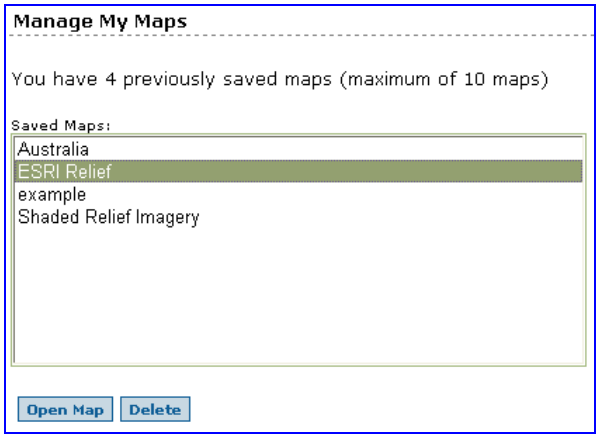


Figure 12: Saved ESRI Relief map.

3.3.3 Delete Stored Maps

1. Log in to the portal.
2. Click Manage my Maps in the table of contents. The Manage My Maps dialog box opens.
3. Click the map title you wish to delete. The map will be highlighted.



4. Click Delete to remove the highlighted map from your saved map list.

   The Manage My Maps dialog box refreshes to reflect the changes.

3.4 Manage My Searches

If you routinely search for the same type of metadata, it is possible to create and save your search parameters for repeated use.

3.4.1 Save Searches

1. Log in to the portal.
2. To perform an advanced search, click Advanced Search in the table of contents or click Advanced Search under the Search field.
3. The Advanced Search dialog box appears.

4. Enter advanced search parameters (e.g., enter the search terms "Relief, World, Shaded" in the Search text box and select Live Data and Maps from the Type/Format

Figure 13: Advanced Search for a Registered User

drop-down menu).

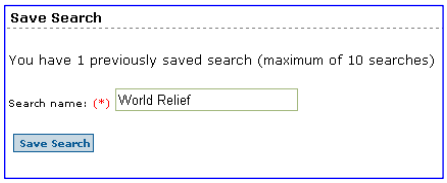
5. Click Save in the upper right corner to save your search parameters.

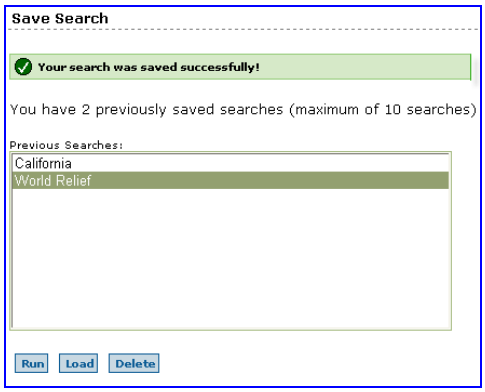
6. The Save Search dialog box appears.
7. Enter a name for your saved search (e.g., "World Relief").
8. Click Save Search.

Figure 14: Search Save Button

The Save Search dialog box informs you that your search was saved successfully.

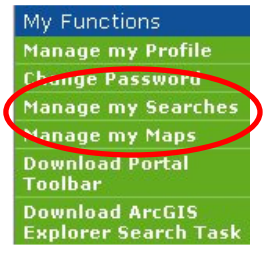
9. Refresh your Web browser to reflect your changes in the Save Search dialog box. Additionally, you can go to the portal home page to see your saved searches.





3.4.2 Run, Load, or Delete Saved Searches

1. Log in to the portal.
2. Click Manage my Searches in the table of contents.



The Manage My Searches window opens, listing your previous searches.

3. Click to highlight the saved search(es) you want to run, load, or delete.

Tip: To manage your searches, you can run, load, or delete your saved searches. You can store a maximum of 10 searches.

4a. To execute the highlighted saved search, click Run. The results menu appears for the results of your search.

4b. Click Load to load the highlighted saved search parameters into the Advanced Search dialog box.

4c. Click Delete to remove the highlighted saved search from your search list.

Part II: Appendices

Appendix A: —Glossary of Terms

Administrator	Administrators are gatekeepers of the GIS portal. The administrator reviews and approves posted metadata, upgrades registered users to publisher status, creates channels, assigns stewards to channels, harvests metadata from other clearinghouses, and determines user access permissions.
Anonymous User	Anonymous users are not required to log in to the GIS portal to use some of its key functions. This group can access the public functions of the portal including basic and advanced searches, creating and viewing maps, and viewing results and metadata records.
ArcCatalog	ArcCatalog is a shared ArcGIS application that allows you to organize and access all GIS information such as maps, globes, datasets, models, metadata, and services.
ArcGIS Explorer	ArcGIS Explorer (http://support.esri.com/index.cfm?fa=software.filteredGateway&PID=116) is a lightweight desktop client for ArcGIS Server (http://support.esri.com/index.cfm?fa=software.filteredGateway&PID=66). It can be used to access, integrate, and utilize GIS services, geographic content, and other Web services.
ArcIMS	ESRI software that allows for centrally hosting and serving GIS maps, data, and applications for use on the Internet. The administrative framework lets users author configuration files, publish maps, design Web pages, and administer ArcIMS spatial servers. ArcIMS (http://support.esri.com/index.cfm?fa=software.filteredGateway&PID=16) supports Windows, Linux, and UNIX platforms and is customizable on many levels.
ArcMap	ArcMap (http://webhelp.esri.com/arcgisdesktop/9.2/index.cfm?TopicName=An_overview_of_ArcMap) is a comprehensive map-authoring application for ArcGIS Desktop (http://support.esri.com/index.cfm?fa=software.filteredGateway&PID=43). It is the central application for all map-based tasks including cartography, map analysis, and editing.

ArcSDE	ArcSDE (http://support.esri.com/index.cfm?fa=software.filteredGateway&PID=19) is an application server that facilitates storing and managing of spatial data in a database management system (DBMS) and makes the data available to many applications. ArcSDE allows you to manage spatial data in one of four commercial databases (IBM DB2, Informix, Microsoft SQL Server, and Oracle).
Channel	Channels provide quick access to key content for data categories, applications, and events.
Channel Editor	The Channel Editor is a component of GIS Portal Toolkit that allows you to create new subchannels, populate and manage channel content, and create external links.
Channel Steward	Channel stewards determine and maintain the authoritative data resources that are posted on the GIS portal channels. Both registered users and publishers can act as channel stewards if authorized by the portal administrator. Channel stewards typically are domain experts in a field.
Content Type	Content types, also known as resource types, denote what kind of file is being transmitted over the Web.
Discovery Mechanism	A way of finding servers on the network.
DNS Name	A domain name server (DNS) name is translated into an IP address, which is used to specify a computer.
Downloadable Data	Downloadable data is digital data that is intended for use with GIS software. The data can be presented in vector or raster format.
Dublin Core	The Dublin Core metadata element set is a standard for cross-domain information resource description. The Dublin Core metadata elements provide a standardized set of conventions to describe things online in ways that make information easy to find. Implementation of Dublin Core typically makes use of XML.
ESRI	Environmental Systems Research Institute, Inc., which designs and develops the world's leading GIS technology.

Federal Geographic Data Committee (FGDC)	An organization established by the United States Office of Management and Budget responsible for coordinating the development, use, sharing, and dissemination of surveying, mapping, and related spatial data. The committee is composed of representatives from federal and state government agencies, academia, and the private sector. FGDC defines spatial data metadata standards for the United States in its Content Standard for Digital Geospatial Metadata and manages the development of the National Spatial Data Infrastructure.
File Transfer Protocol (FTP)	File transfer protocol is the protocol used for copying files to and from remote computer systems on a network using Transmission Control Protocol/Internet Protocol (TCP/ICP) such as the Internet. This protocol also allows users to use FTP commands to work with files such as listing files and directories on the remote system.
Gazetteer	A list of geographic place-names and their coordinates. Entries may include other information as well such as area, population, or cultural statistics. Atlases often include gazetteers, which are used as indexes to their maps.
Geocoding	A GIS operation for converting street addresses into spatial data that can be displayed as features on a map, usually by referencing address information from a street segment data layer.
Geographic Information System (GIS)	An integrated collection of computer software and data used to view and manage information about geographic places, analyze spatial relationships, and model spatial processes. A GIS provides a framework for gathering and organizing spatial data and related information so that it can be displayed and analyzed.
Geographic Service	A geographic service is a Web service that performs basic geoprocessing tasks such as place-name searches, address matching, or routing. A geographic service uses SOAP to transfer information back and forth to clients and brings together two industry standard languages for communicating over the Internet, HTTP and XML.
Georeferencing	Aligning geographic data to a known coordinate system so it can be viewed, queried, and analyzed with other geographic data. Georeferencing may involve shifting, rotating, scaling, skewing, and in some cases warping, rubber sheeting, or orthorectifying the data.

Geospatial One-Stop (GOS)	Geospatial One-Stop is an intergovernmental project managed by the Department of Interior to improve the ability of the public and government to use geospatial information to support the business of government and facilitate decision making.
GIS Portal Toolbar	The GIS Portal Toolbar allows you to open Web Map Context files created with the Map Viewer, inside of ArcMap.
Globally Unique Identifier (GUID)	In COM, a globally unique identifier is a 16-byte code that identifies an interface to an object across all computers and networks. Such an identifier is unique because it contains a time stamp and a code based on the network address hard-wired on the host computer's LAN interface card. These identifiers are generated by a utility program.
Graphical User Interface (GUI)	A software display of program options that allows a user to choose commands by pointing to icons, dialog boxes, and lists of menu items on the screen, typically using a mouse. This contrasts with a command line interface in which control is accomplished via the exchange of strings of text.
Health Check	Health checks are progress reports to ensure that your project or installation is running error free. The Health Check can be found at the following location: http://<machine name>/Portal/jsp/Admin/ healthCheck.jsp.
HTTPS	*See* Secure Hypertext Transfer Protocol.
JAR	Java Archive file is a ZIP file used to distribute a set of Java classes. It stores compiled Java classes and associated metadata that can constitute a program.
Live Data and Maps (Image Service)	Live Data and Maps is a dynamic service that allows direct interaction with map content, which is delivered in one of two ways: as a cartographic image or "snapshot" of a map or as compressed vector features that are streamed to you. Streamed features allow for greater client-side interaction including dynamic labeling, feature symbolization, and MapTip creation. You do not need to download anything to use live data; just add it to your map and begin exploring.

Map Viewer	Map Viewer is a component of the Virginia GISData Portal that allows you to browse, navigate, and query map data; view multiple map services; change projections on the fly; and save map views. Map Viewer supports OGC, WMS, and WCS services.
Marker Symbol	A symbol used to represent a point location on a map.
Metadata	Information that describes the content, quality, condition, origin, and other characteristics of data or other pieces of information. Metadata for spatial data may describe and document its subject matter; how, when, where, and by whom the data was collected; availability and distribution information; its projection, scale, resolution, and accuracy; and its reliability with regard to some standard. Metadata consists of properties and documentation. Properties are derived from the data source, whose documentation is entered by a person.
Metadata Repository	A metadata repository is a central place where metadata is stored and maintained.
Metadata Synchronizer	A metadata synchronizer is the process by which properties of a dataset are read from the dataset and written into its metadata.
National Spatial Data Infrastructure (NSDI)	A federally mandated framework of spatial data that refers to U.S. locations only as well as the means of distributing and using that data effectively. Developed and coordinated by FGDC, NSDI encompasses policies, standards, procedures, technology, and human resources for organizations to produce and share geographic data. NSDI is developed by the federal government; state, local, and tribal governments; the academic community; and the private sector.
Node	In a geodatabase, the point representing the beginning or ending point of an edge, topologically linked to all the edges that meet there.
NSDI Clearinghouse Network	A community of digital spatial data providers that maintain NSDI Clearinghouse Nodes as part of NSDI.
NSDI Clearinghouse Node	An Internet server that hosts a collection of metadata and data maintained and stored on a computer server by a data provider. An NSDI Clearinghouse Node provides information about geographic data within the data provider's areas of responsibility.

Offline Data	Offline data is materials that cannot be directly downloaded to your computer but can be ordered on- or offline from the publisher.
Other Documents	Within the publisher's Create Metadata functionality, this content type category includes geographic information stored in text fields, spreadsheets, or other formats. These documents are used in conjunction with geographic data. In many cases, they can be viewed and downloaded.
Portal	A portal is a site that provides personalized capabilities to its visitors and provides pathways to other content.
Publisher	A publisher can register metadata repositories and create, upload, and manage their metadata records in the GIS portal repository. Publishers are responsible for maintaining their metadata records and ensuring that the data services referenced in their metadata are current and accessible for GIS portal-related purposes. Publishers need to create an account before they can use the additional functionality.
Registered User	A registered user has access to the same functions as the anonymous user. In addition, they can save maps and searches and manage a user profile. Registered users need to create an account before they can use the additional functionality.
Resource Type	*See* Content Type.
Secure Hypertext Transfer Protocol (HTTPS)	Secure Hypertext Transfer Protocol is a URI scheme that is syntactically identical to the scheme normally used for accessing resources using HTTP. Using HTTPS indicates that HTTP is being used but with a different default port and an additional encryption/ authentication layer between HTTP and TCP.
Spatial Data Infrastructure (SDI)	Spatial data infrastructure is a framework of spatial data, metadata, users, and tools that are interactively connected to use spatial data in an efficient and flexible way.
Spatial Domain	Spatial domain is a constraint that sets the minimum and maximum values for the geometry attributes. There are a finite number of integers available in the system, so the x,y spatial domain is analogous to a square grid that always contains the same number of rows and columns.

Static Map Image	A static map image is a finished map that is presented in any graphics format (e.g., GIS, .tif, .bmp, and MrSID). The content of the map image does not change with user requests as opposed to a map service.
Styled Layer Descriptor (SLD)	The Styled Layer Descriptor is an encoding for the Web Map Server specification and can be extended to allow user-defined symbolization of feature data.
Style Sheet	A file or form that provides style and layout information, such as margins, fonts, and alignment, for tagged content within an XML or HTML document. Style sheets are frequently used to simplify XML and HTML document design, since one style sheet may be applied to several documents. Transformational style sheets may also contain code to transform the structure of an XML document and write its content into another document.
Synchronization	The process of automatically updating certain elements of a metadata file. In geodatabase editing, the process of applying changes made from a replica to the relative replica in a replica pair.
Synchronizer	A synchronizer is a tool used during publication to process metadata that is published from ArcCatalog and ArcIMS to ensure that content is complete in the Virginia GISData Portal tables.
Uniform Resource Locator (URL)	Uniform resource locator is a synonym for uniform resource identifier. URL is a uniform syntax for global identifiers of network-retrievable documents (e.g., an Internet Web address is a URL).
United States Geological Survey (USGS)	The United States Geological Survey is a scientific agency of the United States government, which studies the landscape of the United States, its natural resources, and the natural hazards that threaten it.
Universally Unique Identifier (UUID)	A universally unique identifier is an identifier standard used in software construction, standardized by the Open Software Foundation (OSF) as part of the distributed computing environment (DCE). The intent of the UUIDs is to enable distributed systems to uniquely identify information without significant central coordination.

Universal Resource Identifier (URI)	The addressing technology for identifying resources on the Internet for private intranets. URIs were originally defined as two types: uniform resource locators (URLs), which are addressed with network locations, and uniform resource names (URNs), which are persistent names that are address independent.
URL	*See* Uniform Resource Locator.
User	A user is one who uses a computer system or software application.
Validation Rule	A rule applied to an object to ensure that its state is consistent with the system that the database is modeling.
Validation	The process, using formal methods, of evaluating the integrity and correctness of data or a measurement.
VB Application	Microsoft Visual Basic (VB) for Applications is the development environment and language found in Visual Basic that can be hosted by applications.
WAF	Web Accessible Folder is a folder whose contents are accessible via a URL.
Web Catalog Service (CS-W)	The OpenGIS Web Catalog Service defines a common interface that enables diverse but conformant applications to perform discovery, browse, and query operations against distributed heterogeneous catalog servers. Web Catalog Service supports publishing and searching collections of metadata and related information objects.
Web Coverage Service (WCS)	The Web Coverage Service is an OGC standard Web service for the exchange of geospatial data.
Web Feature Service (WFS)	The OpenGIS Web Feature Service is an interface that allows requests for geographic features across the Web using platform-independent calls.
Web Map Context (WMC)	The Web Map Context is a companion to the OpenGIS Web Map Service, which describes how to save a map view composed of many different layers from different Web map servers. WMC specifies how a specific grouping of one or more maps, coming from one or more Web map services, can be described in a portable format for storage, use, and reuse within and between clients.

Web Map Service (WMS)	An OGC Web Map Service produces maps of spatially referenced data dynamically from geographic information. This international standard defines a map to be a portrayal of geographic information as a digital image file suitable for display on a computer screen. WMS maps are generally rendered in pictorial format (e.g., JPEG).
Web Service Catalog	A collection of ArcGIS Server Web services. A Web service catalog is itself a Web service with a distinct location (URL) and can be queried to obtain the list of Web services in the catalog and their URLs.
World Geodetic System (WGS)	The World Geodetic System defines a reference frame for the earth for use in geodesy and navigation.
XML	Extensible Markup Language. Developed by W3C, this is a standardized general purpose markup language for designing text formats that facilitates the interchange of data between computer applications. XML is a set of rules for creating standard information formats using customized tags and sharing both the format and the data across applications.

Appendix B: —Frequently Asked Questions

Q: What browsers does the GIS Portal Toolkit support?

A: The GIS Portal Toolkit supports the following Web browsers:

Internet Explorer (version 5.5 or higher)
Netscape (version 7 or higher, excluding version 8)
Mozilla Firefox (version 1.0 or higher)

Q: Can I view local GIS data with Map Viewer?

A: No, the portal Map Viewer only supports Internet-based map services. If you want to combine Live Data and Maps with local data, you can use the GIS Portal Toolbar to view Live Data and Maps in ArcMap. The desktop extension for ArcMap is available as a component of the Virginia GISData Portal. You can download the GIS Portal Toolbar on the portal home page or via ESRI at http://www.esri.com/software/arcgis/extensions/gis-portal-toolbar/index.html.

Q: Can I view ArcIMS feature services?

A: No, you cannot view ArcIMS feature services with Map Viewer. The best way to view ArcIMS feature services is to expose them via WFS.

Q: How many different map services can I view?

A: The number of different map services you can add to the table of contents is unlimited. However, the more map services you have, the longer it will take for the map to refresh after each operation.

Q: Why do I get a message "Projection not supported"?

A: When you get this message, it means one of the services that you want to reproject does not support either the current default projection or the custom projection that was chosen on the Properties dialog box.

Q: What are the benefits of registering with the portal?

A: When you register with the portal, a user account allows you to

Save Maps that you create in Map Viewer to access at a later time.

Save Searches to review at a later time.

Personalize your portal experience.

Become a publisher if you are a Virginia Governmental entity and you have geographic content you want to share with others. We invite anyone to publish geographic content through geodata.gov so your information can be discovered and accessed by others.

Q: Is the information I save private to my portal?

A: Yes, your information is private to your portal. Others do not have access to your information.

Q: Why do my searches sometimes appear to show data outside my area of interest?

A: You may receive search results outside of your area interest for any of the following reasons:

If you perform a pure text search (only use the What text box), your results will return any metadata record that contains the text string you entered.

If you perform a text search and you specify a search area in your Where text box or click the My Geography check box, your search results will be filtered to only return those metadata records whose specified bounding boxes (coverage extents) partially overlap your search area.

Some metadata records have large bounding boxes that may partially cover your search area and show up in your search results. In those cases, you may further refine your search results by clicking the Refine Search button and clicking the Data must fall completely inside the specified area button. Run the search again to see only the metadata records that fall completely within your search area.

Q: How do I publish data?

A: Publishing metadata on GISData.Virginia.gov is only available to government entities in Virginia.

Appendix C: —Install Guide: GIS Portal Toolbar and ArcGIS Explorer Search Task

GIS Portal Toolbar

The GIS Portal Toolbar for ArcMap is a desktop extension of Virginia GISData Portal. It provides interoperability between the GIS desktop and the GIS portal. When added to ArcMap, this toolbar allows you to search a GIS portal for metadata. For any of the returned records in a result set, you can view the metadata either in XML format or in a styled view. If any of the found records are of type Live Data and Maps, you have the additional functionality of being able to add those services to your map. The toolbar can also open Web Map Context files created by a GIS portal Map Viewer.

Installation

You can install the GIS Portal Toolbar on the portal site in the table of contents or from ESRI (http://www.esri.com/software/arcgis/expentions/gis-portal-toolbar/index.html).

1. Log in to the GIS portal.
2. Click Download Portal Toolbar in the table of contents. You can also access the file to download from the ESRI home page: click Products > All Products > GIS Portal Toolbar for ArcGIS.
3. Download the Toolbar ZIP file.
4. Extract the ZIP file to a temporary folder and run setup.exe.
5. Open ArcMap.
6. Click Tools on the menu and click Customize.
7. Browse the Toolbars list for Portal Toolkit Commands. Place a check next to Portal Toolkit Commands.
8. Click Close.

   The Portal Toolbar will appear in your ArcMap toolbar.

ArcGIS Explorer Search Task

The ArcGIS Explorer search task is a component of GIS Portal Toolkit that is accessible only to registered users. When added to ArcGIS Explorer, the search task allows you to search a GIS portal for metadata. You can search the catalog for data and connect with ArcGIS Server. Additionally, the ArcGIS Explorer search task is a free tool through the Virginia GISData Portal.

Installation

1. Log in to the GIS portal.
2. Click Download ArcGIS Explorer Search Task in the table of contents.
3. Download the search task ZIP file and extract it to a temporary folder.
4. Open the PtkSearch.nmf file in Notepad and find the <Download Location> element, located on or around line 26.
5. Change the value of this element to point to the location of your GPTSearchTask.dll file. The default value is file://C:\Student\Ex10\GPTSearchTask\PTKSearchTask.dll.
6. Save the file and click Close.
7. Next, open ArcGIS Explorer (Start > All Programs > ArcGIS > Explorer).
8. Click Tools on the menu and click Manage Tasks.
9. Click Get Tasks.
10. Select Task Files from the left column.
11. Click the Look in drop-down menu and navigate to PTKSearch.nmf.
12. Click PTKSearch.nmf to highlight it and click Open.

    You are returned to the Manage Tasks dialog box.
13. Select Search for Data (1.0.0.1) from the All available tasks box on the left side, and add the task to the Tasks available in this map box on the right side.
14. Click OK.

    The ArcGIS Explorer search task is added to ArcGIS Explorer.

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